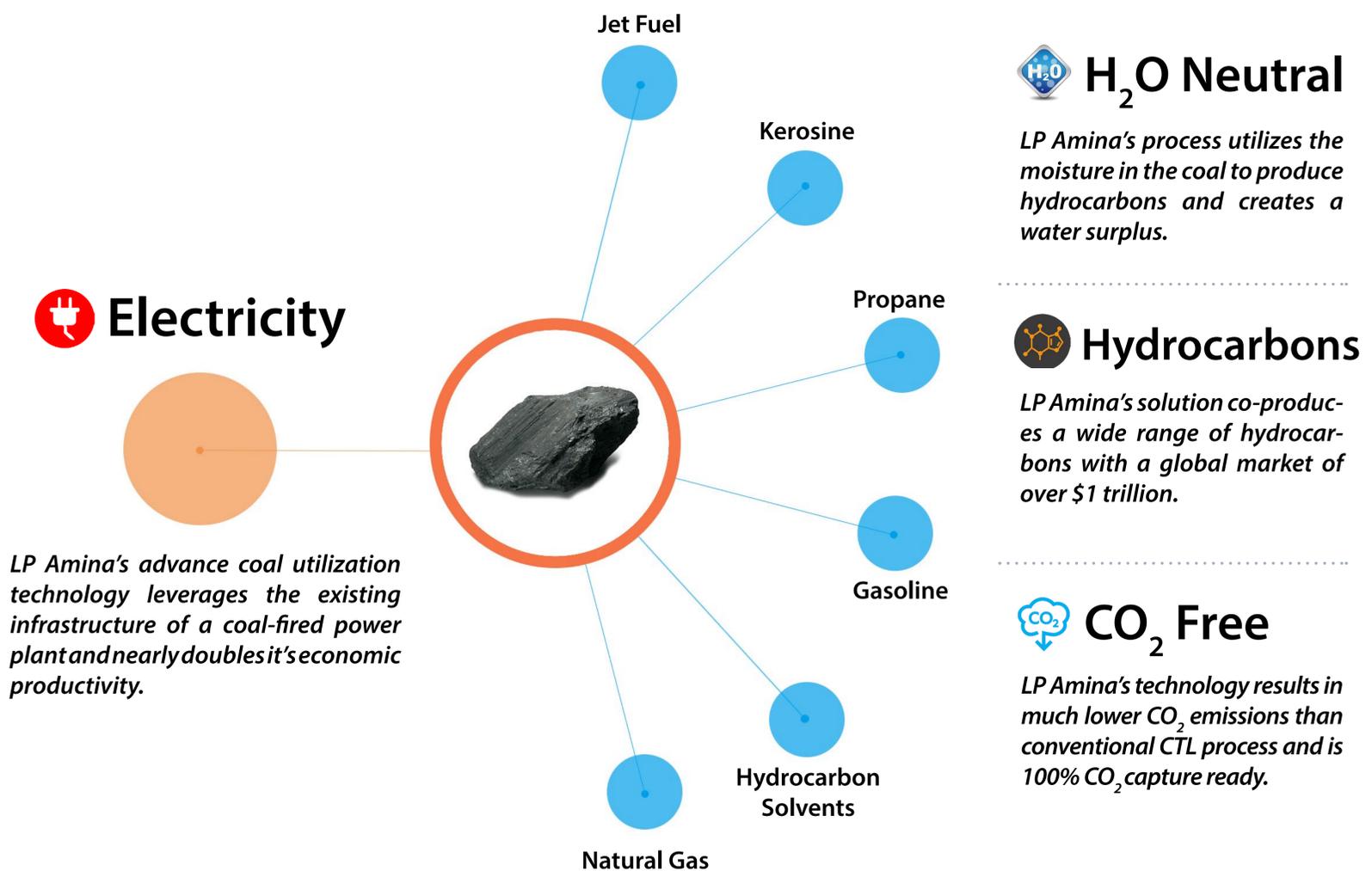


# Coal Can Do It All

A revolutionary technology to repurpose existing coal fired power plants to derive high value liquid hydrocarbons while generating electric power - ALL in one plant, ALL using the same coal, emission free.



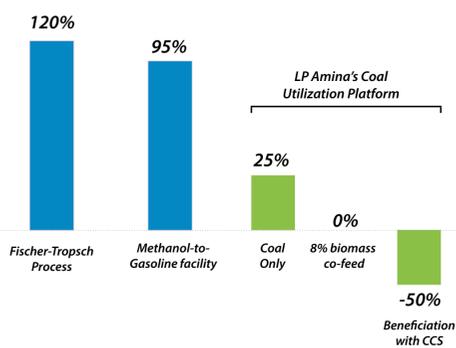
# A New Vision for Coal

LP Amina's coal utilization technologies have a number of benefits that clearly differentiate it from existing CTL processes making it a viable solution to solve the challenges facing the global energy industry.

## CO<sub>2</sub> Capture Ready

LP Amina's technology results in much lower CO<sub>2</sub> emissions than conventional CTL processes and is 100% CO<sub>2</sub> capture ready.

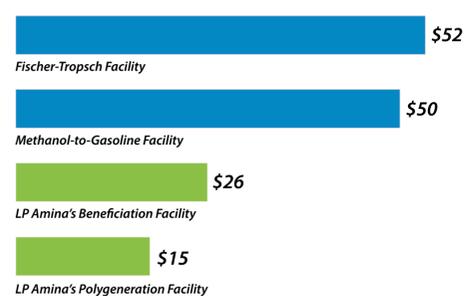
CO<sub>2</sub> Emissions Compared to Oil-Based Products:



## 70% Cost Reduction

LP Amina's coal utilization technologies require as little as 30% of capital compared to traditional coal-to-liquid technologies.

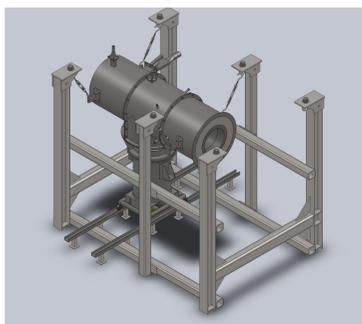
Capital Cost per Barrel of Gasoline-Equivalent Product:



## Modular Design

Due to modular design, project deployment for LP Amina's technology can be less than 18 months, compared to 5 years for regular CTL technologies.

LP Amina's technology "bolts-on" to an existing power station to co-produce heat and hydrocarbons.

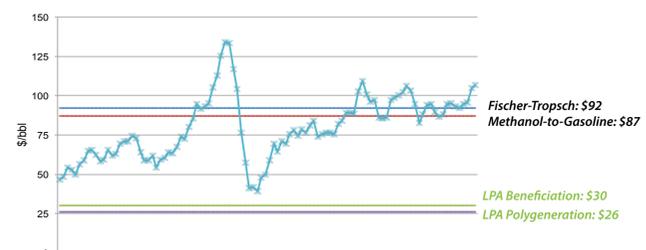


LP Amina's Reactor at WRI

## Compelling Economics

Low cost structure of LP Amina's Coal Utilization technologies provides ample profit even when oil prices are low, providing significant "safety margin" to investors.

WTI crude prices compared to production costs of CTL technologies:



\* Fischer-Tropsch and Methanol-to-Gasoline facilities also require an additional \$15 per barrel in Carbon Capture & Sequestration in order to "Comply with federal emissions guidelines".

# Our Roadmap

LP Amina's roadmap for technology deployment engages a team of global partners and stakeholders in order to commercially demonstrate the technology by 2015.

Roadmap envisions the technology deployed in three phases in parallel in China and the United States:

**01** *Phase 01:  
Demonstration  
& Piloting*

 Currently the Polygeneration technology is being demonstrated in Shanxi, China on a 50MW unit. The plant is operational and commissioning will be completed in 1H 2014.

 A 50/50 grant funded support effort in progress at WRI using Wyoming coal.

**02** *Phase 2:  
First Commercial  
Deployment*

 LP Amina will carry out a full retrofit of a 150MW electrical power station. This will allow us to refine the commercial operation of the technology while gaining valuable experience for implementation on a full-scale facility.

 A similar demonstration will be carried out in the US in 2016/17.

**03** *Phase 3:  
Full-Scale Commercial Facility  
& Commercial Replication*

 Once phase two is completed, LP Amina begin deploying the technology in full-scale commercial facilities across the US and China.

 A similar demonstration will be carried out in the US in 2018.

LP Amina has formed strong relationships with partners in both China and the United States that support a common vision:



Western Research Institute



University of Wyoming



Bayer Technology Services



US-China CERC



Gemeng International